MAINTENANCE ADVISORY,
Power-Related Issues for the SICPS Rigid Wall Shelter

The following advisory compensates for an import power incompatibility of the SICPS Rigid Wall Shelters (RWSs) and the Army's 3-phase Tactical Quiet Generators (TQGs).

1. **The following advisory compensates for an import power incompatibility of the SICPS Rigid Wall Shelters (RWSs), S-832/G and S-842/G, and the Army's 3-phase Tactical Quiet Generators (TQGs).**

   An explanation of the incompatibility follows.

   The voltage regulator in TQG generator sets senses phase C voltage and then provides the proper excitation to maintain phase voltage at 120 Volts. The regulator assumes the load on phase A and B is about the same as what's on phase C and therefore believes all three voltages are at 120 volts.

   However, if phase A and B are loaded without any load on phase C the regulator is fooled into thinking there is no load on the generator and so it provides only a low excitation (i.e. no load) level. Without the proper excitation level phase A and B voltage will droop badly when loaded.

   The shelter imports (and can export) three phase power but only phase A and B are wired into the shelter to provide electrical energy.

   When shelters are powered by TQG generators using the import connector phase C of the generator never gets loaded. If the shelter ECU is turned on it presents a huge load which causes phase A and B voltage to decrease so far that the relay in the ECU drops out. When the relay drops out the huge load goes away and the voltage returns to near normal. With the voltage near normal the ECU relay closes again and the cycle repeats continually.

   <u>As shown in the procedure below, the user should connect pigtail L2 to generator L3 and pigtail L3 to generator L2 when importing from 3 phase TQG's.</u>

AC Power for the SICPS Rigid Wall Shelters (RWSs), S-832/G and S-842/G, From External Tactical Quiet Generators (TQGs)

The pigtail AC power input cable that comes with the shelter, NSN 6150-01-494-3957, has the following leads which are marked as stated below. The black, red and green leads should always be those colors, however the orange and white colors may vary.

1 ea	Black	L1
1 ea	Red	L2
1 ea	Orange	L3

1 ea	White	L0 (NEUT)
4 ea	Green	GND

The Army's 5 KW and 10KW Tactical Quiet Generators (TQG) normally have the following 3 settings:

(a) single phase, 120 vac
(b) single phase, 120/240 vac
(c) three phase, 120/208 vac

For use with subject shelters, **setting (b) must be used** with the following hook up connections. At the generator, adjust the line-to-line output voltage to 240 vac.

pigtail cable	generator
L1	L1
L2	L3
L3	not used
L0	L0
gnd	gnd

The Army's TQGs larger than 10KW normally have the following 2 settings:

(a) three phase, 120/208 vac
(b) three phase, 240/416 vac

For use with subject shelters, **setting (a) must be used** with the following hook up connections. At the generator, adjust the line-to-line output voltage to 208 vac. If problems occur with the ECU not starting, increase this adjustment to 215 vac.

pigtail cable	generator
L1	L1
L2	L3
L3	L2
L0	L0
gnd	gnd